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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/836,685	04/17/2001	Jefferson E. Odhner	LUC 2-026-3	7184

7590 10/28/2003

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EXAMINER

LAVARIAS, ARNEL C

ART UNIT	PAPER NUMBER
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2872

DATE MAILED: 10/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/836,685

Applicant(s)

ODHNER ET AL.

Examiner

Arnel C. Lavarias

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2003 and 26 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,17 and 32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,17 and 32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/26/03 in Paper No. 16 has been entered.

Response to Amendment

2. The amendments to Claims 1, 17, and 32 in Paper No. 16, dated 9/26/03, are acknowledged and accepted.
3. The Examiner notes that Claims 2, 4-16, 18-31, and 33-39 were previously cancelled in Paper No. 6, dated 12/16/02, hence these claims are no longer pending in the instant application.

Response to Arguments

4. The Applicants' arguments with respect to claims 1, 17, and 32 in Paper No. 16 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

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5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 17, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asakura (U.S. Patent No. 5450512) in view of Kompfner (U.S. Patent No. 4337993), of record, and Essemli et al. (FR2538131 A1), of record.

Asakura discloses a system and method for treating optical signals from a source (See for example Figures 7-8), comprising a source (inherently, a source of light is required to generate the signals having wavelengths of $\lambda_1, \lambda_2, \lambda_3, \lambda_4$), a movable diffractive optical element (See 92 in Figure 8; col. 4, line 57-col. 5, line 2), and output stations (See 98, 99 in Figure 8), wherein the source carries input optical signals (See 90 in Figure 8), each of said signals being associated with a particular wavelength; the movable diffractive optical element (See 92 in Figure 8; col. 4, line 57-col. 5, line 2) has a surface carrying a diffraction grating and positioned to intercept said input optical signals for generating output optical signals and distributing any output optical signals to any output optical station (See col. 1, line 39-54; col. 2, line 49-col. 3, line 18); and the output stations positioned to receive said output optical signals from the movable diffractive optical element (See 98, 99 in Figure 8). Asakura lacks the movable diffractive optical element being holographic and including an array of facets, each of the facets carrying a diffraction grating(s) which are superimposed, each being

angularly offset with respect to each other. However, Kompfner teaches a holographic optical fiber coupler system (See for example Figures 1-3), wherein a series of holographic diffraction gratings in a fixed phase grating plate are used to divert light of particular orientation to a particular output optical fiber (See Figures 1-3; col. 1, line 39-54; col. 2, line 49-col. 3, line 18; col. 3, line 36-col. 4, line 20). Further, Essemli et al. teaches a holographic coupler-switch device (See Abstract; Figures 1-2), wherein a movable holographic deflecting plate comprising a series of holographic diffraction gratings (See 6, 17 in Figures 1-2) is used to divert light of a particular orientation and wavelength to a particular output fiber. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the movable diffractive optical element being holographic and including an array of facets, each of the facets carrying a diffraction grating(s) which are superimposed, each being angularly offset with respect to each other, as taught by Kompfner and Essemli et al., in the system and method for treating optical signals from a source of Asakura, for the purpose of increasing system speed and increasing the number of signals that may be multiplexed and demultiplexed capability of the system, since a larger number of input signals may be input and multiplexed/demultiplexed by the diffraction gratings.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Asakura in view of Kompfner and Essemli et al. as applied to Claim 1 above, and further in view of Mey et al. (U.S. Patent No. 5608278), of record.

Asakura in view of Kompfner and Essemli et al. discloses the invention as set forth above in Claim 1, except for the movable diffractive optical element being provided as a magnet having a movable holographic diffraction grating attached to the magnet and being magnetically coupled to a coil energizable for movement of the magnet and the diffraction grating. However, Mey et al. teaches a method and apparatus for moving a diffractive optical element (See Figures 1, 3, 4), comprising a magnet (See for example 72 in Figure 3) having a holographic diffraction element (See 26 in Figure 3) attached thereto, and being magnetically coupled to a coil (See col. 4, lines 7-49) energizable for movement of the magnet and diffraction grating. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate a magnetically movable diffractive optical element, as taught by Mey et al., in the system and method for treating optical signals from a source, as disclosed by Asakura in view of Kompfner and Essemli et al. One would have been motivated to do this to utilize fewer moving parts, thus decreasing system complexity and cost, as well as reduce system start-up torque, thus reducing the amount of power required to operate the system.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnel C. Lavarias whose telephone number is 703-305-4007. The examiner can normally be reached on M-F 8:30 AM - 5 PM EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 703-305-0024. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.



Arnel C. Lavarias
10/17/03

